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Another heritage building lost by fires

The 25th of May 2023 was a sad day for the Australian heritage as a massive fire broke out in a heritage building, which is the former RC Henderson women's hat factory in Surry Hills NSW. The fire was intense, and the building was deemed not structurally stable after the fire and had to be demolished.
The building contained excessive combustible materials (timber), which is not permitted under the modern Australian building code. However, as the Australian building code is a performance-based code, heritage buildings could still comply with the fire safety requirements of the building code via the Performance Solution approach from a fire engineer.
The provision of an automatic fire sprinkler system, as a Performance Solution to account for the excessive combustible materials in the building, would make the fire consequence much different.

(From Firas Shawash)

The Sydney Harbour Bridge – the centenary begins

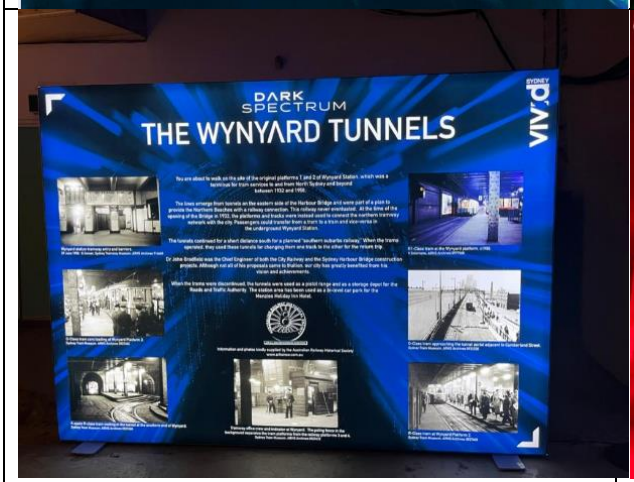
Mr Bill Phippen form EHS will be presenting about the history of the Sydney Harbour Bridge. The presentation will look at the events and personalities who made the decisions and the early works undertaken. It will be a hybrid event. For more information refer to the link below:
https://www.engineersaustralia.org.au/event/2023/04/sydney-harbour-bridge-centenary-begins-48221

(From Firas Shawash)

Dark Spectrum in the Wynyard Tram Tunnels

Further to my entry in the Engineering Heritage Bulletin #30, I did get to this Vivid Sydney event - and it was well worth the trip into the city. The light show certainly lived up to and in fact exceeded the promotion, for I have never seen anything as innovative and technical as this. I rarely use the term “amazing” but it certainly applied here, the way the creators used the rather mundane area of the old tram tunnels, and transformed them into six different themed spectacles. Well done to the creators and I hope they provide another light show in Sydney sometime.

A few photos follow to give the feel of the light show - and it was great to see that they recognised the Australian Railway Historical Society NSW for the provision of photos and information on the history of the tram tunnels.



Note: Sydney’s Vivid festival is over, but the Dark Spectrum in the Wynyard Tram Tunnels is still running till the 16th of July. There is still a chance to go to this event.

(From Frank Johnson)

Engineering heritage of the Walsh Bay Arts Precinct

Refer to the link below to an interesting article about the Engineering heritage of the Walsh Bay Arts Precinct in *Create Digital* Magazine, the official magazine of EA:

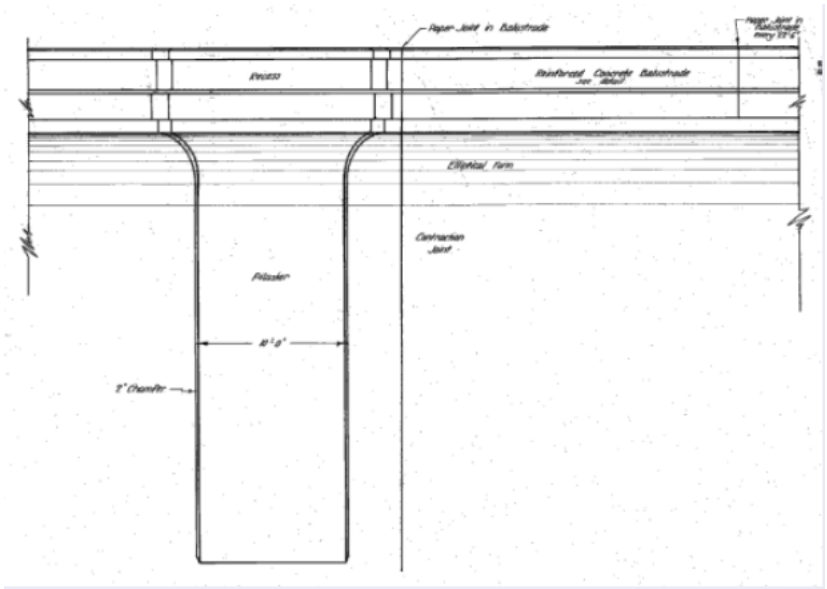
https://createdigital.org.au/engineering-heritage-of-the-walsh-bay-arts-precinct/

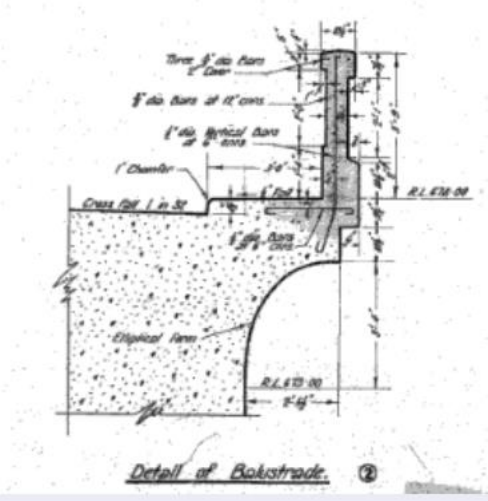
(From Mike Taylor)

Canning Dam

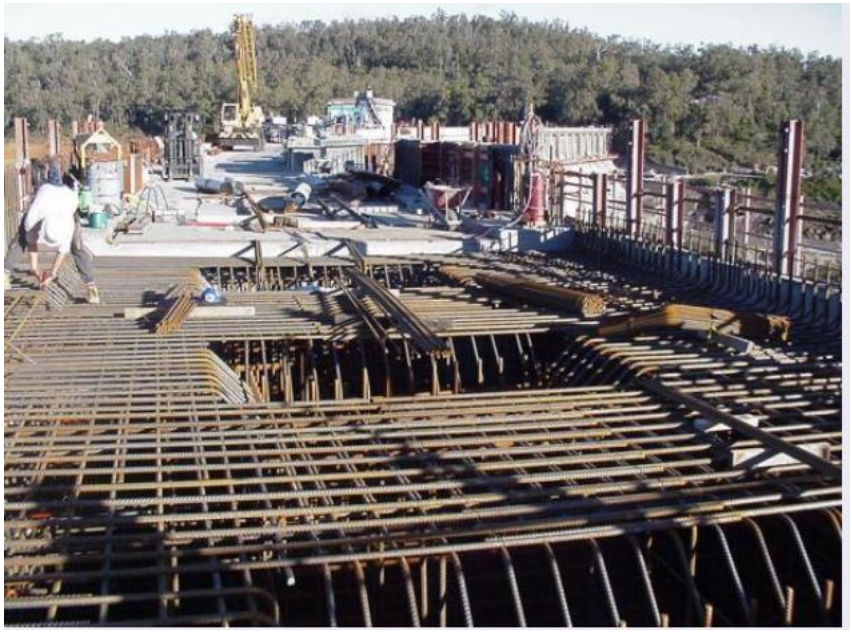
The Canning Dam , located about 50 Km south east from Perth CBD, is WA's largest concrete dam and a feature of the Perth Hills since 1940 and still retaining all its original Art Deco Features – or does it?
Looking at the two photos taken 80 years apart, it seems the same…

What most people do not realise is that the entire top 3.8m (12ft) of the dam was completely removed in as part of the post-tensioning works in 2001 and then replaced, using the original architectural drawings (note the line of “greyer” concrete)





This strengthening work involved removing the top 3.8m of the existing dam wall, drilling down through the 70m high concrete dam plus up to a further 70m into the bedrock below, and replacing the top section of the wall with a massive reinforced concrete beam, reusing the original architectural drawings.



Finally, permanent, re-stressable ground anchors were then installed through the drilled holes from the crest to be stressed and grouted deep into the foundation rock.

Across the 466m crest width of the dam, 166 permanent ground anchors totalling nearly 13km in length were installed.

Typically these anchors consisted of 91 strand 15.2mm Extra-High Tensile strands measuring up to 142m long (which are still the longest ever used).

They effectively squeeze the dam onto its foundations and strengthen it considerably.

The original dam itself is also quite noteworthy for its social impact.

It was originally identified a potential source as far back as 1897 and by the time serious design commenced in 1930 a number of different options were considered.

However by the time work commenced on site in 1933, a more conventional design was chosen.
This was in part due to the need for sustenance works during the Great Depression. By 1938 over 1,000 men were employed by the Department under this scheme. It was designed to give maximum support to the unemployed and their families and to this end, single men got 1 day's work per week, and married men got 2 day's work with 1 day's extra work per child.

A complete townsite grew up on-site during the construction with cottages, a post office, shops, a school but no pub (officially). The Resident Engineer's (RE's) office/house survives from this time, which the author used during his time as RE in 2001 was quite delighted to be sitting in Victor Munt's (the RE for the original construction) old office at his old desk – which it is rumored was originally used by CY O'Connor at Mundaring!

The original Canning Dam was recognized by the Engineering Heritage Recognition Program with the awarding in 1998 of a Historic Engineering Marker. More information is on the EHA Website at https://heritage.engineersaustralia.org.au/wiki/Place:Canning_Dam.

(From Perry Beor)

Contributions needed

Readers are invited to share news, bright ideas, issues of concern, advice about online talks – anything that would be of interest and helpful to others, by sending them to editor Firas Shawash at fshawash@yahoo.com for inclusion in the next Bulletin - more Australia-wide content would be appreciated.